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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,928	06/21/2001	Tatsuo Ozaki	4041K-000023	6210

27572 7590 05/22/2003

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EXAMINER

PATEL, NIHIR B

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 05/22/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,928

Applicant(s)

OZAKI ET AL. 

Examiner

Nihir Patel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 through 12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, 7, 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kado US Patent No. 5,236,042 in view of Kroetsch US Patent No. 5,904,206.

Referring to claims 1, 3, 5, 7, 11, 13, and 14, Kado discloses the applicant's invention as claimed with the exception of providing a plurality of metallic tubes through which fluid flows.

Kroetsch discloses heat exchanger flow tube with improved header to tube end stress resistance that does provide a plurality of metallic tubes through which fluid flows (see column 3 lines 56-65). It is well known to one in the ordinary skill of the art to use metallic tubes (Kroetsch '206) in Kado's invention to further improve the heat transfer rate.

Claims 2, 4, 6, 8, 9, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kado US Patent No. 5,236,042 in view of Sugimoto et al. US Patent No. 6,357,521.

Referring to claims 2, 4, 6, 8, 10, and 12, Kado discloses the applicant's invention as claimed with the exception of providing concave and convex portions formed in a portion of the

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long side wall surface of the rectangular cross section of the header tank by the plastic deformation. Plastic deformation is method of manufacturing and is given no weight.

Sugimoto discloses a heat exchanger having a header tank that does provide concave and convex portions formed in a portion of the long side wall surface of the rectangular cross section of the header tank by the plastic deformation (see figure 11). Therefore it is obvious to one in the ordinary skill of the art to modify Kado's invention by providing concave and convex portions formed in a portion of the long side wall surface of the rectangular cross section of the header tank by the plastic deformation in order to increase the strength of the header tank and to increase the cooling process.

Referring to claim 9, Kado discloses the applicant's invention as claimed with the exception of providing reinforcements and a respective mounting member that are formed separately from each other.

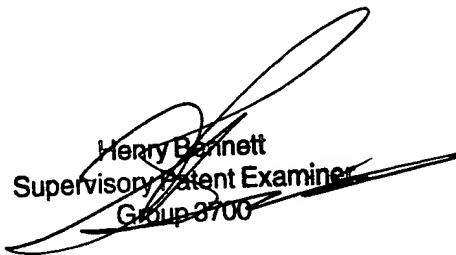
Sugimoto discloses a heat exchanger having a header tank that does provide reinforcements and a respective mounting member that are formed separately from each other (see figure 18). Therefore it would be obvious to one in the ordinary skill of the art to modify Kado's invention by providing reinforcements and a respective mounting member that are formed separately from each other in order to make it easier to dismount the heat exchanger if it were to malfunction and to reduce the cost of manufacturing.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (703) 308-0101.

NP
May 8, 2003


Henry Bennett
Supervisory Patent Examiner
Group 3700